

WHAT IS CLAIMED IS:

1. A method for combining requests for bandwidth by a data provider for transmission of data over an asynchronous communication medium, comprising the steps of:

receiving bandwidth requests from one or more data providers, each bandwidth request having a data provider identifier, a priority identifier, and the amount of required bandwidth;

storing each of the bandwidth requests in a data structure so as to maintain the order in which the bandwidth requests were received;

based on said priority identifier and said order of each bandwidth request, scheduling each said bandwidth request in an order to be serviced;

combining each of said bandwidth requests having the same said data provider identifier into a data burst bandwidth; and

granting said data burst bandwidth to the data provider over the asynchronous communication medium.

2. The method of claim 1, wherein said asynchronous communication medium is cable TV.

3. The method of claim 1, wherein said asynchronous communication medium is wireless.

4. The method of claim 1, wherein said asynchronous communication medium is satellite.

5. The method of claim 1, wherein said asynchronous communication medium is the Internet.

6. The method of claim 1, wherein said order is priority first come first served.

7. The method of claim 1, wherein each said data burst may contain bandwidth requests with different priority identifiers.

8. The method of claim 1, wherein said data structure is comprised of one or more queues.

9. A method for combining requests for bandwidth by a data provider for transmission of data over an asynchronous communication medium, comprising the steps of:

receiving bandwidth requests from one or more data providers, each bandwidth request having a data provider identifier, a priority identifier, and the amount of required bandwidth;

combining, by data provider identifier and priority identifier, the amount of bandwidth required to represent a data burst bandwidth;

based on one or more quality of service parameters (which varies from priority to priority), scheduling each said data burst bandwidth in an order to be serviced; and

granting said data burst bandwidth to the data provider over the asynchronous communication medium.

10. The method of claim 9, wherein said quality of service parameters include efficiency of transmission and transfer delay tolerance.

11. The method of claim 9, wherein said asynchronous communication medium is cable TV.

12. The method of claim 9, wherein said asynchronous communication medium is wireless.

13. The method of claim 9, wherein said asynchronous communication medium is satellite.

14. The method of claim 9, wherein said asynchronous communication medium is the Internet.

15. The method of claim 9, wherein said order is priority first come first served.

16. The method of claim 9, wherein each said data burst may contain bandwidth requests with different priority identifiers.

17. A system for combining requests for bandwidth by a data provider for transmission of data over an asynchronous communication medium, comprising:

a headend; and

a scheduler coupled to said headend,

wherein said scheduler receives bandwidth requests from one or more data providers, each bandwidth request having a data provider identifier, a priority identifier, and the amount of required bandwidth,

wherein said scheduler stores each of the bandwidth requests in a data structure so as to maintain the order in which the bandwidth requests were received,

wherein said scheduler schedules each said bandwidth request in an order to be serviced based on said priority identifier and said order of each bandwidth request, and

wherein said scheduler combines each of said bandwidth requests having the same said data provider identifier into a data burst bandwidth, and

wherein said headend grants said data burst bandwidth to the data provider over the asynchronous communication medium.

18. The system of claim 17, wherein said asynchronous communication medium is cable TV.

19. The system of claim 17, wherein said asynchronous communication medium is wireless.

20. The system of claim 17, wherein said asynchronous communication medium is satellite.

21. The system of claim 17, wherein said asynchronous communication medium is the Internet.

22. The system of claim 17, wherein said order is priority first come first served.

23. The system of claim 17, wherein each said data burst may contain bandwidth requests with different priority identifiers.

24. The system of claim 17, wherein said data structure is comprised of one or more queues.

25. A system for combining requests for bandwidth by a data provider for transmission of data over an asynchronous communication medium, comprising:

a headend; and

a scheduler coupled to said headend,
wherein said scheduler receives bandwidth requests from one or
more data providers, each bandwidth request having a data provider identifier, a
priority identifier, and the amount of required bandwidth,
wherein said scheduler combines, by data provider identifier and
priority identifier, the amount of bandwidth required to represent a data burst
bandwidth,
wherein said scheduler, based on one or more quality of service
parameters (which varies from priority to priority), schedules each said data burst
bandwidth in an order to be serviced, and
wherein said headend grants said data burst bandwidth to the data
provider over the asynchronous communication medium.

26. The system of claim 25, wherein said quality of service parameters
include efficiency of transmission and transfer delay tolerance.

27. The system of claim 25, wherein said asynchronous
communication medium is cable TV.

28. The system of claim 25, wherein said asynchronous
communication medium is wireless.

29. The system of claim 25, wherein said asynchronous
communication medium is satellite.

30. The system of claim 25, wherein said asynchronous
communication medium is the Internet.

31. The system of claim 25, wherein said order is priority first come
first served.

32. The system of claim 25, wherein each said data burst may contain bandwidth requests with different priority identifiers.

33. A method for combining requests for bandwidth by a data provider for transmission of data over an asynchronous communication medium, comprising the steps of:

receiving bandwidth requests from one or more data providers, each bandwidth request having a data provider identifier, a priority identifier, and the amount of required bandwidth;

combining each of said bandwidth requests having the same said data provider identifier into a data burst bandwidth; and

granting said data burst bandwidth to the data provider over the asynchronous communication medium.

34. A system for combining requests for bandwidth by a data provider for transmission of data over an asynchronous communication medium, comprising a headend that receives bandwidth requests from one or more data providers, each bandwidth request having a data provider identifier, a priority identifier, and the amount of required bandwidth, wherein said headend combines each of said bandwidth requests having the same said data provider identifier into a data burst bandwidth, and wherein said headend grants said data burst bandwidth to the data provider over the asynchronous communication medium.